

WHAT IS CLAIMED IS:

1           1.    A resource allocator that is operable to allocate a  
2    plurality of resources among a plurality of tasks within a process  
3    system, said plurality of resources comprising human resources and  
4    process resources, and said process system comprising a plurality  
5    of application processes, said resource allocator comprising:

6                a memory that stores a model of said process system, said  
7    model representing mathematically said plurality of application  
8    processes, said plurality of resources, and said plurality of  
9    tasks, and defining relationships among related ones thereof;

10               a status monitoring controller that monitors measurable  
11   characteristics associated with ones of said process system, said  
12   plurality of application processes, said plurality of resources,  
13   and said plurality of tasks; and

14               a resource allocation controller that modifies ones of  
15   said mathematical representations and that allocates ones of said  
16   plurality of resources among ones of said plurality of tasks within  
17   said process system in response to ones of said monitored  
18   measurable characteristics.

1           2.    The resource allocator as set forth in Claim 1 further  
2    comprising a graphical user interface that is operable to enable  
3    supervisory interaction.

1           3.    The resource allocator as set forth in Claim 2 wherein  
2   said graphical user interface is operable to facilitate at least  
3   one of customer management, network management, transaction  
4   management, resource management, communication management.

1           4.    The resource allocator as set forth in Claim 1 wherein  
2   said memory further comprises a data repository that comprises at  
3   least one of a customer database, a network database, a transaction  
4   database, a resource database, a communication database, a  
5   knowledge database and a control database.

1           5.    The resource allocator as set forth in Claim 4 wherein  
2   said data repository comprises at least said knowledge database,  
3   said resource allocator is further operable to modify said  
4   knowledge database in response to ones of said monitored measurable  
5   characteristics thereby enabling said resource allocator to be  
6   self-learning.

1           6.    The resource allocator as set forth in Claim 1 wherein  
2   said resource allocation controller is operable to reselect one of  
3   said allocated ones of said plurality of resources among ones of  
4   said plurality of tasks within said process system in response to  
5   modified ones of said monitored measurable characteristics.

1           7.    A method of operating a resource allocator to allocate a  
2 plurality of resources among a plurality of tasks within a process  
3 system, said plurality of resources comprising human resources and  
4 process resources, and said process system comprising a plurality  
5 of application processes, said method of operating said resource  
6 allocator comprising the steps of:

7                storing a model of said process system in memory that  
8 represents mathematically said plurality of application processes,  
9 said plurality of resources, and said plurality of tasks, and  
10 defining relationships among related ones thereof;

11               monitoring measurable characteristics associated with  
12 ones of said process system, said plurality of application  
13 processes, said plurality of resources, and said plurality of  
14 tasks in said memory; and

15               modifying ones of said mathematical representations and  
16 allocating ones of said plurality of resources among ones of said  
17 plurality of tasks within said process system in response to ones  
18 of said monitored measurable characteristics.

1        8.    The method of operating the resource allocator as set  
2    forth in Claim 7 further comprising the step of providing a  
3    graphical user interface operable to enable supervisory  
4    interaction, to facilitate at least one of customer management,  
5    network management, transaction management, resource management,  
6    communication management.

1        9.    The method of operating the resource allocator as set  
2    forth in Claim 7 further comprising the step of maintaining at  
3    least one of a customer database, a network database, a transaction  
4    database, a resource database, a communication database, a  
5    knowledge database and a control database in memory.

1        10.   The method of operating the resource allocator resource  
2    allocator as set forth in Claim 9 wherein said knowledge database  
3    is maintained in memory and said method further comprises the step  
4    of modifying said knowledge database in response to ones of said  
5    monitored measurable characteristics thereby enabling said resource  
6    allocator to be self-learning.

1        11. The method of operating the resource allocator as set  
2        forth in Claim 7 further comprising the steps of reselecting one of  
3        said allocated ones of said plurality of resources among ones of  
4        said plurality of tasks within said process system in response to  
5        modified ones of said monitored measurable characteristics.

1        12. The method of operating the resource allocator as set  
2        forth in Claim 11 wherein said reselecting step further comprises  
3        the step of accessing at least a knowledge database.

1        13. A process system comprising:

2            a plurality of subsystems;

3            a plurality of tasks;

4            a plurality of resources comprising human resources and  
5 process resources; and

6            a resource allocator that is operable to allocate said  
7 plurality of resources among said plurality of tasks, said resource  
8 allocator comprising:

9            a memory that stores a model of said process system,  
10 said model representing mathematically said plurality of  
11 application processes, said plurality of resources, and said  
12 plurality of tasks, and defining relationships among related  
13 ones thereof;

14           a status monitoring controller that monitors  
15 measurable characteristics associated with ones of said  
16 process system, said plurality of application processes, said  
17 plurality of resources, and said plurality of tasks; and

18           a resource allocation controller that modifies ones  
19 of said mathematical representations and that allocates ones  
20 of said plurality of resources among ones of said plurality of  
21 tasks within said process system in response to ones of said  
22 monitored measurable characteristics.

1        14. The process system as set forth in Claim 13 wherein said  
2 resource allocator further comprises a graphical user interface  
3 that is operable to enable supervisory interaction.

1        15. The process system as set forth in Claim 14 wherein said  
2 graphical user interface is operable to facilitate at least one of  
3 customer management, network management, transaction management,  
4 resource management and communication management.

1        16. The process system as set forth in Claim 13 wherein said  
2 memory further comprises a data repository that comprises at least  
3 one of a customer database, a network database, a transaction  
4 database, a resource database, a communication database, a  
5 knowledge database and a control database.

1        17. The process system as set forth in Claim 16 wherein said  
2 data repository comprises at least said knowledge database, said  
3 resource allocator is further operable to modify said knowledge  
4 database in response to ones of said monitored measurable  
5 characteristics thereby enabling said resource allocator to be  
6 self-learning.

1        18. The process system as set forth in Claim 13 wherein said  
2 resource allocator is operable to reselect one of said allocated  
3 ones of said plurality of resources among ones of said plurality of  
4 tasks within said process system in response to modified ones of  
5 said monitored measurable characteristics.

1        19. The process system as set forth in Claim 13 wherein said  
2 process system controls one of a manufacturing plant, a refinery, a  
3 hotel, a restaurant, a traffic control system, a transportation  
4 control system and an emergency services system.

1        20. The process system as set forth in Claim 13 wherein said  
2 resource allocator is an information management system.